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EXAMINER

STAICOVICI, STEFAN

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,209

Applicant(s)

KANDEL, ED

Examiner

Stefan Staicovici

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/7/02; 3/28/02.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7-8, 13-18, 42, 48 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 09-234327.

Regarding claims 1 and 15, JP 09-234327 teaches the claimed process for simultaneously making a pleated filter and molded frame including, providing a top mold and a bottom mold having interspaced troughs (see Figure 2), positioning a filter sheet between said top and bottom molds, vertically closing said top and bottom molds to compress said filter sheet along a vertical axis while forming a cavity (Ea) about the periphery of said filter sheet and, simultaneously injection molding a frame about said periphery of said filter sheet (see Abstract and Figure 2) to form said pleated filter and molded frame.

In regard to claims 2, 14, 16-17 and 42, JP 09-234327 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis.

Specifically regarding claims 3, 7, 18 and 48, JP 09-234327 teaches a rectangular flange defining said molded frame formed by cavity (Ea) (see Figure 2).

Regarding claims 4, 8 and 13, JP 09-234327 teaches that said troughs are parallel (see Figure 1).

3. Claims 1-4, 7-8, 13-18, 42, 48 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 63-287522.

Regarding claims 1 and 15, JP 63-287522 teaches the claimed process for simultaneously making a pleated filter and molded frame including, providing a top mold (11) and a bottom mold (21) having interspaced troughs (see Figure 1), positioning a filter sheet (2a) between said top and bottom molds (11, 21), vertically closing said top and bottom molds to compress said filter sheet along a vertical axis while forming a cavity (13) about the periphery of said filter sheet and then, injection molding a frame about said periphery of said filter sheet (see Abstract and Figures 1-5) to form said pleated filter and molded frame.

In regard to claims 2, 14, 16-17 and 42, JP 63-287522 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis.

Specifically regarding claims 3, 7, 18 and 48, JP 63-287522 teaches a rectangular flange defining said molded frame formed by cavity (13) (see Figures 1-5).

Regarding claims 4, 8 and 13, JP 63-287522 teaches that said troughs are parallel (see Figure 11).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20-28 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 in view of Nakayama *et al.* (US Patent No. 5,993, 580).

JP 09-234327 teaches the basic claimed process as described above.

Regarding claims 20-21, 23-24, 26-27 and 49-50, although JP 09-234327 teaches compression molding, JP 09-234327 does not specifically teach which mold moves. However, maintaining a stationary mold and moving another mold in contact with said stationary mold is well known in the art as evidenced by Nakayama *et al.* ('580) which teach a compression molding process of a pleated filter including moving an upper die (first or second mold half) in contact with a lower die (second or first mold half) (see col. 5, lines 31-33). Therefore, it would have been obvious for one of ordinary skill in the art to have moved an upper die in contact with a lower die as taught by Nakayama *et al.* ('580) in the process of JP 09-234327 because, Nakayama *et al.* ('580) specifically teaches that such mold motion is required to compression mold a pleated filter sheet which is what the process of JP 09-234327 requires and also because of its well known status as evidenced by Nakayama *et al.* ('580).

In regard to claims 22, 25, 28 and 51, although the process of JP 09-234327 in view of Nakayama *et al.* ('580) does not teach moving both molds, whether a single mold is movable or

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whether both molds are moved towards each other or only a single mold is moved toward a stationary mold does not appear to have patentable weight because the limitation is one of mere reversal of motion, hence of relative motion between said molds. Therefore, it would have been obvious for one of ordinary skill in the art to have moved both molds in the process of JP 09-234327 in view of Nakayama *et al.* ('580) due to a variety of factors such as apparatus design, apparatus cost, etc.

6. Claims 20-28 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-287522 in view of Nakayama *et al.* (US Patent No. 5,993, 580).

JP 63-287522 teaches the basic claimed process as described above.

Regarding claims 20-21, 23-24, 26-27 and 49-50, although JP 63-287522 teaches compression molding, hence mold motion, JP 63-287522 does not specifically teach which mold moves. However, maintaining a stationary mold and moving another mold in contact with said stationary mold is well known in the art as evidenced by Nakayama *et al.* ('580) which teach compression molding of a pleated filter including moving an upper die (first or second mold half) in contact with a lower die (second or first mold half) (see col. 5, lines 31-33). Therefore, it would have been obvious for one of ordinary skill in the art to have moved an upper die in contact with a lower die as taught by Nakayama *et al.* ('580) in the process of JP 63-287522 because, Nakayama *et al.* ('580) specifically teaches that such mold motion is required to compression mold a pleated filter sheet which is what the process of JP 63-287522 requires and also because of its well known status as evidenced by Nakayama *et al.* ('580).

In regard to claims 22, 25, 28 and 51, although the process of JP 63-287522 in view of Nakayama *et al.* ('580) does not teach moving both molds, whether a single mold is movable or whether both molds are moved towards each other or only a single mold is moved toward a stationary mold does not appear to have patentable weight because the limitation is one of mere reversal of motion, hence of relative motion between said molds. Therefore, it would have been obvious for one of ordinary skill in the art to have moved both molds in the process of JP 63-287522 in view of Nakayama *et al.* ('580) due to a variety of factors such as apparatus design, apparatus cost, etc.

7. Claims 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art.

JP 09-234327 or JP 63-287522 teaches the basic claimed process as described above.

Regarding claim 29, JP 09-234327 or JP 63-287522 does not teach a rotational mold axis. However, Applicant's Admitted Prior Art teaches that it is well known that compression molds have either a rotational axis or a linear translational axis (see page 12, lines 28-31), hence teaching that compression molds having either a rotational axis or a linear axis are equivalent alternatives. Therefore, it would have been obvious for one of ordinary skill in the art to have provided a set of molds having a rotational mold axis as an equivalent alternative to a set of molds having a linear mold axis as taught by Applicant's Admitted Prior Art in the process of JP 09-234327 or JP 63-287522 because, Applicant's Admitted Prior Art specifically teaches that compression molds having either a rotational axis or a linear axis are equivalent alternatives.

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8. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Nakayama *et al.* (US Patent No. 5,993, 580).

JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art teaches the basic claimed process as described above.

Regarding claims 39-40, although JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art teaches compression molding, JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art does not specifically teach which mold moves. However, maintaining a stationary mold and moving another mold in contact with said stationary mold is well known in the art as evidenced by Nakayama *et al.* ('580) which teach a compression molding process of a pleated filter including moving an upper die (first or second mold half) in contact with a lower die (second or first mold half) (see col. 5, lines 31-33). Therefore, it would have been obvious for one of ordinary skill in the art to have moved an upper die in contact with a lower die as taught by Nakayama *et al.* ('580) in the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art because, Nakayama *et al.* ('580) specifically teaches that such mold motion is required to compression mold a pleated filter sheet which is what the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art requires and also, because of its well known status as evidenced by Nakayama *et al.* ('580).

In regard to claim 41, although the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Nakayama *et al.* ('580) does not teach moving both molds, whether a single mold is movable or whether both molds are moved towards

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each other or only a single mold is moved toward a stationary mold does not appear to have patentable weight because the limitation is one of mere reversal of motion, hence of relative motion between said molds. Therefore, it would have been obvious for one of ordinary skill in the art to have moved both molds in the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Nakayama *et al.* ('580) due to a variety of factors such as apparatus design, apparatus cost, etc.

9. Claims 5-6, 9-12, 19, 43-44, 52, 56, 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Mess (US Patent No. 5,923,959).

JP 09-234327 or JP 63-287522 teaches the basic claimed process as described above.

Regarding claims 5, 9, 19, 43 and 52, JP 09-234327 or JP 63-287522 does not teach that the second mold member includes a biasing member. Mess ('959) teaches an injection insert molding process including, providing a biased floating mold plate that biases said mold plate to control the thickness of the resulting molded article (see col. 3, lines 10-26). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a biased floating mold plate that biases said mold plate as taught by Mess ('959) in the process of JP 09-234327 or JP 63-287522 because, Mess ('959) specifically teaches that said biased floating mold plate biases said mold plate to control the thickness of the resulting molded article, hence providing for improved process control and an improved molded product.

In regard to claims 6 and 10, JP 09-234327 (Figure 1) or JP 63-287522 (Figure 11) teaches that said troughs are parallel (see Figure 11).

Specifically regarding claims 11, 44, 56 and 60-61, JP 09-234327 teaches a rectangular flange defining said molded frame formed by cavity (Ea) (see Figure 2). Further, JP 63-287522 teaches a rectangular flange defining said molded frame formed by cavity (13) (see Figures 1-5). It is submitted that said cavity that forms said molded flange is continuous about the periphery of said filter sheet because said resulting frame is also continuous, hence forming a gasket.

Regarding claims 12 and 62, JP 09-234327 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis. Further, JP 63-287522 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis.

10. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess (US Patent No. 5,923,959).

JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art teaches the basic claimed process as described above.

Regarding claim 30, JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art does not teach that the second mold member includes a biasing member. Mess ('959) teaches an injection insert molding process including, providing a biased floating mold plate that biases said mold plate to control the thickness of the resulting molded article (see col. 3, lines 10-26). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a biased floating mold plate that biases said mold plate as taught by Mess ('959) in the process of

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JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art because, Mess ('959) specifically teaches that said biased floating mold plate biases said mold plate to control the thickness of the resulting molded article, hence providing for improved process control and an improved molded product.

In regard to claim 31, JP 09-234327 teaches a rectangular flange defining said molded frame formed by cavity (Ea) (see Figure 2). Further, JP 63-287522 teaches a rectangular flange defining said molded frame formed by cavity (13) (see Figures 1-5).

Specifically regarding claim 32, JP 09-234327 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis. Further, JP 63-287522 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis.

11. Claims 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess (US Patent No. 5,923,959) and Nakayama *et al.* (US Patent No. 5,993, 580).

JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) teaches the basic claimed process as described above.

Regarding claims 33-34 and 36-37, although JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) teaches compression molding, JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) does not specifically teach which mold moves. However, maintaining a

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stationary mold and moving another mold in contact with said stationary mold is well known in the art as evidenced by Nakayama *et al.* ('580) which teach a compression molding process of a pleated filter including moving an upper die (first or second mold half) in contact with a lower die (second or first mold half) (see col. 5, lines 31-33). Therefore, it would have been obvious for one of ordinary skill in the art to have moved an upper die in contact with a lower die as taught by Nakayama *et al.* ('580) in the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) because, Nakayama *et al.* ('580) specifically teaches that such mold motion is required to compression mold a pleated filter sheet which is what the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) requires and also, because of its well known status as evidenced by Nakayama *et al.* ('580).

In regard to claims 35 and 38, although the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) and Nakayama *et al.* ('580) does not teach moving both molds, whether a single mold is movable or whether both molds are moved towards each other or only a single mold is moved toward a stationary mold does not appear to have patentable weight because the limitation is one of mere reversal of motion, hence of relative motion between said molds. Therefore, it would have been obvious for one of ordinary skill in the art to have moved both molds in the process of JP 09-234327 or JP 63-287522 in view of Applicant's Admitted Prior Art and in further view of Mess ('959) and Nakayama *et al.* ('580) due to a variety of factors such as apparatus design, apparatus cost, etc.

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12. Claims 45-47, 53-55 and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Mess (US Patent No. 5,923,959) and in further view of Nakayama *et al.* (US Patent No. 5,993, 580).

JP 09-234327 or JP 63-287522 in view of Mess ('959) teaches the basic claimed process as described above.

Regarding claims 45-46, 53-54 and 57-58, although JP 09-234327 or JP 63-287522 in view of Mess ('959) teaches compression molding, JP 09-234327 or JP 63-287522 in view of Mess ('959) does not specifically teach which mold moves. However, maintaining a stationary mold and moving another mold in contact with said stationary mold is well known in the art as evidenced by Nakayama *et al.* ('580) which teach a compression molding process of a pleated filter including moving an upper die (first or second mold half) in contact with a lower die (second or first mold half) (see col. 5, lines 31-33). Therefore, it would have been obvious for one of ordinary skill in the art to have moved an upper die in contact with a lower die as taught by Nakayama *et al.* ('580) in the process of JP 09-234327 or JP 63-287522 in view of Mess ('959) because, Nakayama *et al.* ('580) specifically teaches that such mold motion is required to compression mold a pleated filter sheet which is what the process of JP 09-234327 or JP 63-287522 in view of Mess ('959) requires and also, because of its well known status as evidenced by Nakayama *et al.* ('580).

In regard to claims 47, 55 and 59, although the process of JP 09-234327 or JP 63-287522 in view of Mess ('959) and in further view Nakayama *et al.* ('580) does not teach moving both molds, whether a single mold is movable or whether both molds are moved towards each other

or only a single mold is moved toward a stationary mold does not appear to have patentable weight because the limitation is one of mere reversal of motion, hence of relative motion between said molds. Therefore, it would have been obvious for one of ordinary skill in the art to have moved both molds in the process of JP 09-234327 or JP 63-287522 in view of Mess ('959) and in further view of Nakayama *et al.* ('580) due to a variety of factors such as apparatus design, apparatus cost, etc.

13. Claims 63-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-234327 or JP 63-287522 in view of Mess (US Patent No. 5,923,959) and in further view of Honda *et al.* (US Patent No. 5,667,545).

JP 09-234327 or JP 63-287522 in view of Mess ('959) teaches the basic claimed process as described above.

Regarding claim 63, although JP 09-234327 or JP 63-287522 in view of Mess ('959) teaches injection molding, JP 09-234327 or JP 63-287522 in view of Mess ('959) does not specifically teach injection molding ribs onto said formed filtration media. Honda *et al.* ('545) teach a process for molding a filtration media including, providing an injection mold and molding ribs into said filtration medium (see Abstract). Therefore, it would have been obvious for one of ordinary skill in the art to have provided an injection mold for molding ribs as taught by Honda *et al.* ('545) in the process JP 09-234327 or JP 63-287522 in view of Mess ('959) because, Honda *et al.* ('545) specifically teach that ribs provide for an improved molded filter (see col. 2, lines 55-60).

In regard to claims 64 and 68, JP 09-234327 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis. Further, JP 63-287522 teaches positioning a filter sheet between said top and bottom molds prior to vertically closing said top and bottom molds to compress said filter sheet along a vertical axis.

Specifically regarding claims 65-67 and 69, JP 09-234327 teaches a rectangular flange defining said molded frame formed by cavity (Ea) (see Figure 2). Further, JP 63-287522 teaches a rectangular flange defining said molded frame formed by cavity (13) (see Figures 1-5). It is submitted that said cavity that forms said molded flange is continuous about the periphery of said filter sheet because said resulting frame is also continuous, hence forming a gasket.

Conclusion


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



3/21/04

Primary Examiner

AU 1732

March 21, 2004